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ABSTRACT

The importance of the link between education and work is examined along with current trends, including employment opportunities, the evolving structure of the American economy, and productivity. The positive, direct benefits apparent between work and education are that sound schooling benefits the individual, the employer, and the nation's economy. Careful research has revealed that workers who have completed high school or higher levels of education generally earn higher salaries. However, a sizeable proportion of college graduates are overqualified for the jobs they hold. More than 25 percent of all entry labor market workers have completed 4 years of college. However, economic productivity in the economy has declined since 1970. A marked decline in the size of the youth population, combined with an aging of the present work force, necessitates retraining of current workers. Lifelong learning, in the form of recurrent education, may embrace occupational and job training. Recurrent education intersperses educational opportunities over the lifetime of an individual with periods of work, leisure, and retirement. Recurrent education may help resolve technologically-precipitated skill obsolescence. It is to the self-interest of the country that improvements be made in the educational practices within formal schooling. (SW)

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Beyond The Schoolhouse Door

"If we don't start making changes soon, a significant fraction of the future labor force will have very grave educational deficiencies which could contribute to a future decline in productivity."(Professor Henry N. Levin: School of Education, Stanford University. May 1983)

Boris Blair Jr.

OVERVIEW

There is a growing disparity between the rising educational levels of American workers and the changing skills requirements of jobs. Educators, businessmen, and policymakers are now expressing strong concerns that the educational needs of high technology cannot be met by the present educational system. There is particular concern that the quality of mathematics and science instruction is not adequate. This situation is exacerbated by the fact that currently it has become increasingly difficult to 'recruit' qualified teachers for these fields of knowledge.

Today, some college graduates must take jobs requiring only high school graduation levels of skills/knowledge. Many jobs of more demanding scope are evolving into jobs of reduced skills requirements owing to the rapid advances in high technology. Nor is it even clear that present trends in economic growth will give rise to sufficient new jobs to fully utilize the present levels of qualifications among American skilled workforce personnel.

In the 1983 words of Dr. Russell W. Rumberger, research associate, School of Education, Stanford University:

"College graduates may continue to hold a competitive advantage in the labor market. But an increasing number will be forced to accept jobs incommensurate with their level of training. In fact, the job outlook for college graduates appears bleak for the rest of the decade."

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In the past, earning a college degree was a sound investment. In 1960, four-year college graduates, on the average, earned 65% more than workers

who only completed high school, while those who finished three or less years of postsecondary education earned about the same as high school graduates. During the next two decades, young Americans completing four or more years of college increased some 200% *

Currently, the unemployed labor force in the U.S. has more years of schooling than the workforce in any other country in the world. And it is estimated that by 1990 more than one-third of the mature civilian labor force, and nearly one-third of all young workers will have earned an undergraduate degree. Will these well-educated workers still find jobs where their education and training can be used? Rumberger, in 1983, observed:

> "The educational attainments of the U.S. workforce will continue to increase, largely because older, less-educated workers will be replaced by younger, more-educated workers. Employment growth will not produce widespread opportunities in high-level, high-technology fields, contrary to popular belief. In fact, employment growth in professional and managerial occupations will be smaller than in either the 1960s or 1970s. ....
>
> "College graduates may continue to hold a competitive advantage in the labor market, but an increasing number will be forced to accept jobs incommensute with their level of training."

A national concern with declining productivity, dismay about the state of technological and scientific training, and alarm at falling achievement test scores, all point to the urgent need for reexamining the curricular content of educational programs throughout the nation. To effectively combat these twins enemies of fear and ignorance, tighter links between the community of professional educators and concerned citizens must receive a high priority within both segments.

EDUCATION & WORK: A SOUND PARTNERSHIP

Historically in the American lifestyle, education has been a most important dimension. Most especially in recent years, formal schooling has

preceded economic well-being for those entering the workforce. In recent reports on the quality/quantity status of American schooling, collectively these assessments share one broad recommendation - improve its applicability to the world of work, and its suitability in helping prepare individuals to become socially concerned/participating citizens.

The evolving structure of the American economy, with the marked advances in technology, continue to raise the skills levels required in jobs. Unquestionably in our society, formal schooling is the most important means for skills development/enhancement. Additionally, the levels of skills-qualifications which workers bring to the labor market can clearly enhance their productivity. In brief, these are the positive, direct benefits apparent between work and education - sound schooling benefits the individual; the employer; the nation's economy.

Careful research has revealed that workers who have completed high school or higher levels of education generally earn higher wages/salaries. It is an association indicating they are equipped to secure better jobs than individuals having fewer years of schooling. However, research further reveals that a sizeable proportion - possibly as high as 30% - of recent college graduates are overqualified for the jobs they hold. This fact clearly indicates a potentially serious socio-ecenomic problem; the imbalance, the disparity between the higher levels of education achieved by greater numbers of workers, and the less-demanding educational requirements of their jobs. Unfortunately, this condition continues to worsen; today, as more educated, younger workers replace less educated older workers, better than 25% of all entry labor market youth have completed four years of college. The present economy cannot effectively utilize such numbers of 'overeducated' replacements.

Education
and Productivity

Few, if any, would question the claim that levels of education and productivity are intimately associated. And yet, recent indications are not supportive of this assumption. Despite the rapid increase in overall level of education, productivity growth in the economy has declined since 1970. This, however, was not true of the tenty-five years following WW II when the expansion of education was accompanied by an average annual productivity increase of 3%.

It has also been noted that over the past two decades more and more 'educated' workers have been placed into jobs which previously were occupied by individuals with less formal schooling. This imbalance has persisted. It might well be that the major potential for education to increase productivity lies in its capacity to help individuals learn how to effectively make decisions and adapt to technological changes; i.e., their attitudes; behaviors; values; expectations; skills/knowledge.

The nature (i.e., content) of future jobs will materially affect how effectively suitably-qualified workers produce their products and services. There is no quarrel that jobs should be designed to permit educated workers to utilize their skills, knowledge, and judgement. Such 'job-engineering' implies that permitting the individual to exercise initiative, as well as participate directly in work-related decisions, are two important means for effecting productivity improvements among the more highly educated workers.

Empirical evidence has supported these assertions that: (1) worker participation, and (2) job redesign to increase worker job-envolvment, can yield substantial improvements in production quantity and quality. Additionally, when these conditions prevail, workers tend to be more fully motivated and committed to their jobs, as evidenced by lower absentee and employee turnover

rates.

Unfortunately, the dominent trend, historically, has been in the opposite direction. There has been a general trend to reduce job duties to routine, repetitive operations; i.e. standardization. This means less opportunity - i.e., challenge - for educated workers to use their insight; judgement; problem-solving capabilities. Further, high technology applications also move in this direction. This essentially de-humanizing trend tends to breed job dissatisfaction which is reflected, adversely, in both quality and quantity of production.

Today, our economy, as reflected in productivity, suffers because of on-going underutilization of educated workers. Both research findings and 'hands-on' experience clearly support the view that expanding worker participation and appropriate 'job-engineering',to take fuller advantage of a more educated workforce than heretofor available, can result in improved productivity.

LIFELONG LEARNING/EARNING

A rapidly-shifting economy can render obsolete training and education for non-existent jobs. Where technical demands within jobs/occupations change rapidly, updating of skills is sine qua non; quite literally "an indispensible condition; a necessity". Such lifelong learning, in the form of recurrent education, may embrace a variety of dimensions: occupational and job training; remedial education; correspondence courses; extension courses.

Rapid changes in technology in such areas as robotics; micro-electronics; biotechnology. have created major shifts in both kinds and content of jobs. 'Old' jobs have disappeared; completely new jobs have been created; former jobs have been modified in job content; i.e., their duties and responsibilities.

A second set of circumstances has made it imperative to retrain today's

workers. A marked decline in the size of youth populations, combined with an aging of the present work force, necessitates retraining of current workers. Relying alone upon the capabilities of new entrants into the nation's workforce will fall far short of the demands for an appropriately-skilled manpower resource.

The urgency of this need for recurrent education is evident in the fact that more than three-quarters of those gainfully employed in the year 2000 are now in the nation's workforce. This is a major shift in the demographics of the United States which is also reflected in similar changes among other western industrialized countries.

Although traditionally most education has taken place in the earlier years of life, burgeoning advances in technology no longer make this an appropriate pattern. Too often now, skills thus acquired simply have become obsolete to the needs of our industrialized society. Lifetime learning, most particularly recurrent education, which ("intersperses educational opportunities over the lifetime of an individual in alternates with periods of work, leisure, and retirement" p.1.)** is an approach which highly recommends itself to a resolution of such technologically-precipitated skills obsolescence.

> "Even though this general concept of lifelong learning and specific educational programs for adults has been around for a long time, recurrent education has been increasingly important in the last decade. (p.1)...
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> "Since the late 1970s, the federal budget squeeze and state taxing or spending restraints have made it difficult to discuss seriously a new range of services that would be supported at public expense. Although one can argue that the economic health of the nation and states is crucially dependent on the effectiveness and responsiveness of a system recurrent education, such a system will represent a competing demand for scarse funds. (p.4) ...
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> "Implementation of any financing model for recurrent education must thus consider the political and socio-economic climate, the motives and needs of individuals, both workers and employers, and an overall system of finance, regulation and information. U.S. policy must incorporate paid educational leave schemes with overall policies for increasing

** Susan J. Peters: "Recurrent Education" IEC Policy Perspective; Summer 1983. School of Education; Stanford University.

productivity and reducing unemployment. This could be done with the participation of both state and federal governments." (p.4)

Today, education accounts for an expenditure, nation-wide, of more than $150 billion annually. The American tax-payer (for public, tax-supported schooling) and the American private citizen (for non-public, non-tax-supported schooling), pay this very large sum of money. In the domain of education, if educational research can effect a mere one-tenth of one percent educational-productivity increase, this alone could save them at least $150 million annually. If the determination is there - substantive educational reforms can be effected. Failure to invest in effectively-planned and competently-executed research could mean increased costs, overall, for education in the years ahead. Enlightened self-interest dictates the appropriateness of achieving improvements in the educational practices within our formal schooling.

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